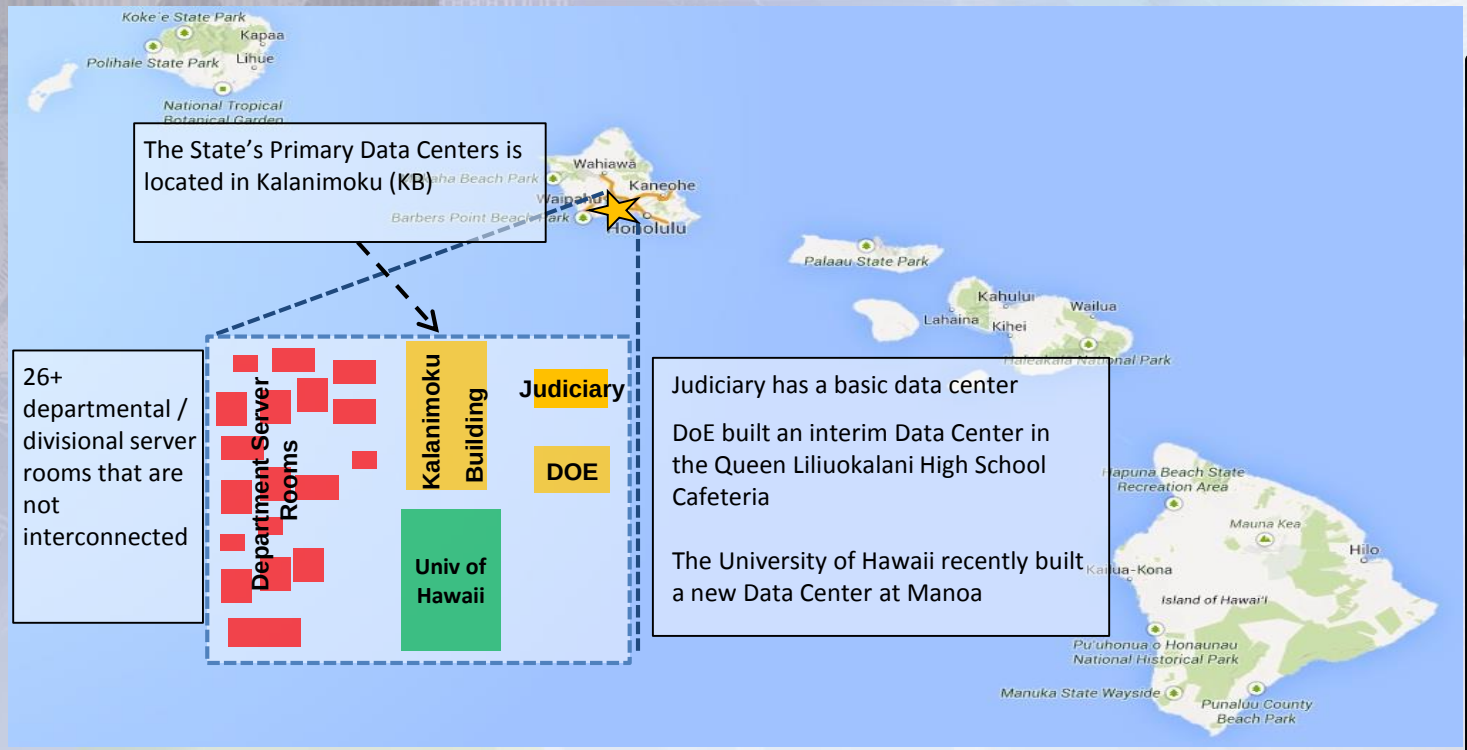
Interim Data Center Strategy

Implementation Update

The Current Data Center Environment

The State currently uses a primary data center and numerous departmental/divisional data centers to meet its data center needs



Legend

Quality	Size
Tier 1- Low	<11,000 sq ft
Tier 2- Moderate	<2500 sq ft
Tier 3- High	<500 sq ft
Tier 4- Very High	<200 sq ft

Critical Facts

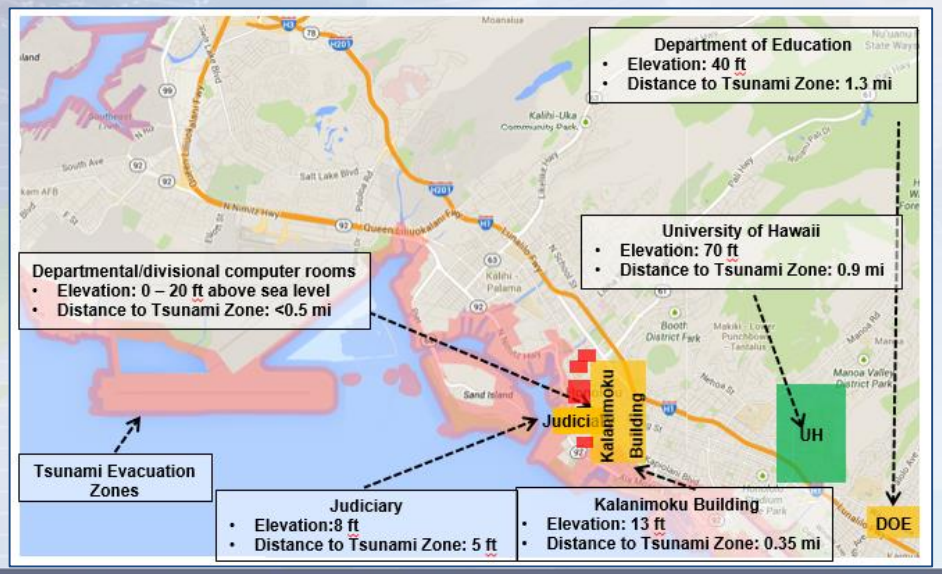
- **KB houses many of the State's most critical applications, including**
  - Payroll
  - Budget
  - HRMS
  - Tax, UI tax & claims
  - Food Stamps/TANF
  - Child and Adult Protective Services
  - CJIS, AFIS
  - Vocational Rehabilitation
- **KB is the primary nexus of the State's network providing connectivity to applications hosted elsewhere**

State of Hawai'i IMT Office of Information Management and Technology

Why Does the State Need a New Data Center Strategy?

The State's critical assets are housed by aging equipment and are unprepared for a natural or man-made disaster

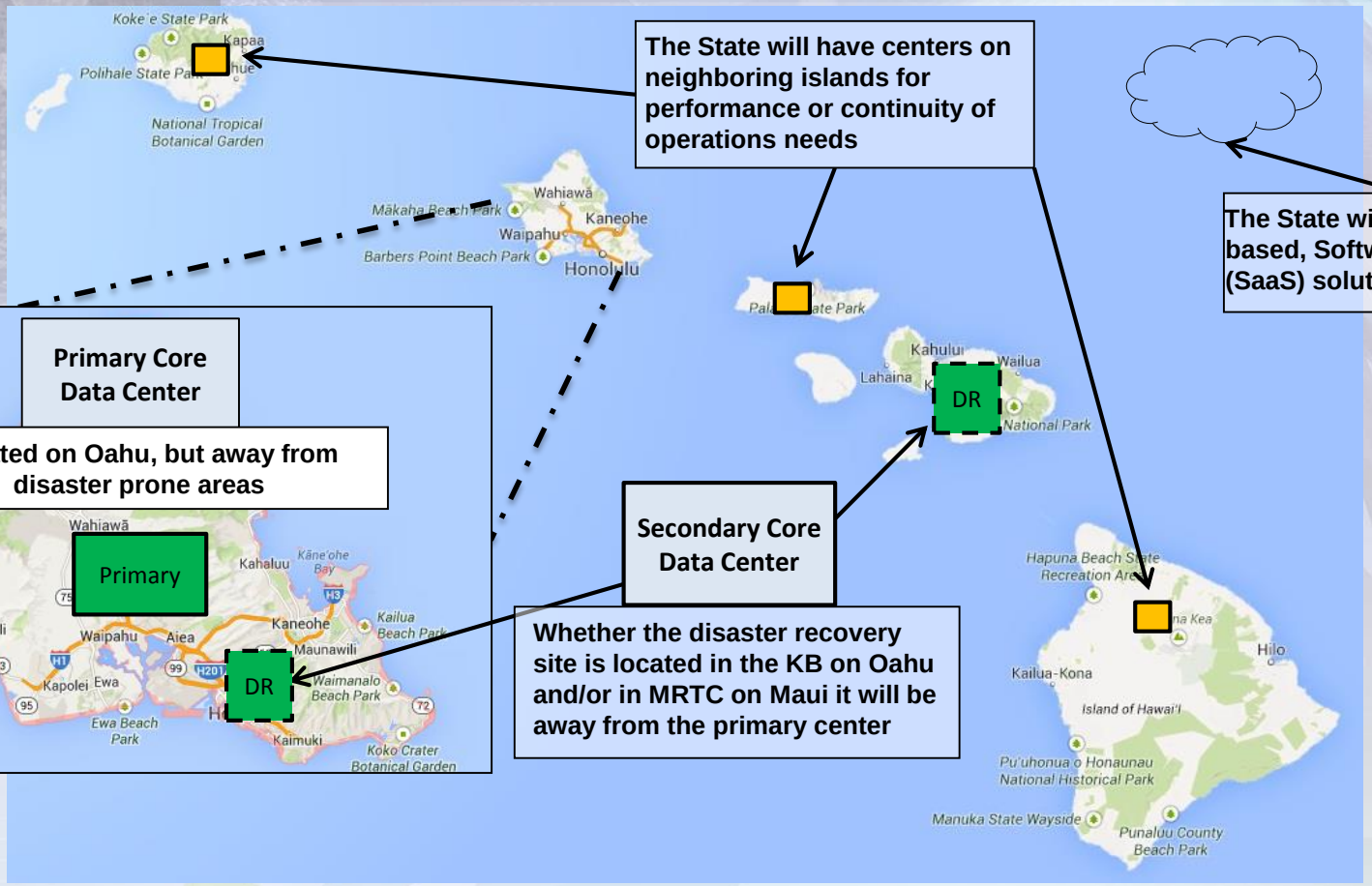
- Capacity: Kalanimoku lacks adequate cooling, power and power distribution capability
- Reliability: Hosted in aging equipment with minimal disaster recovery capabilities
- Security: Inadequate security to prevent a breach
- Departmental/Divisional computer rooms provide only enough capacity for their group and cannot support critical systems
- Other data centers are in disaster-prone locations and do not have enough space to provide for the State's data center needs



State of Hawai'i IMT OFFICE OF INFORMATION MANAGEMENT AND TECHNOLOGY

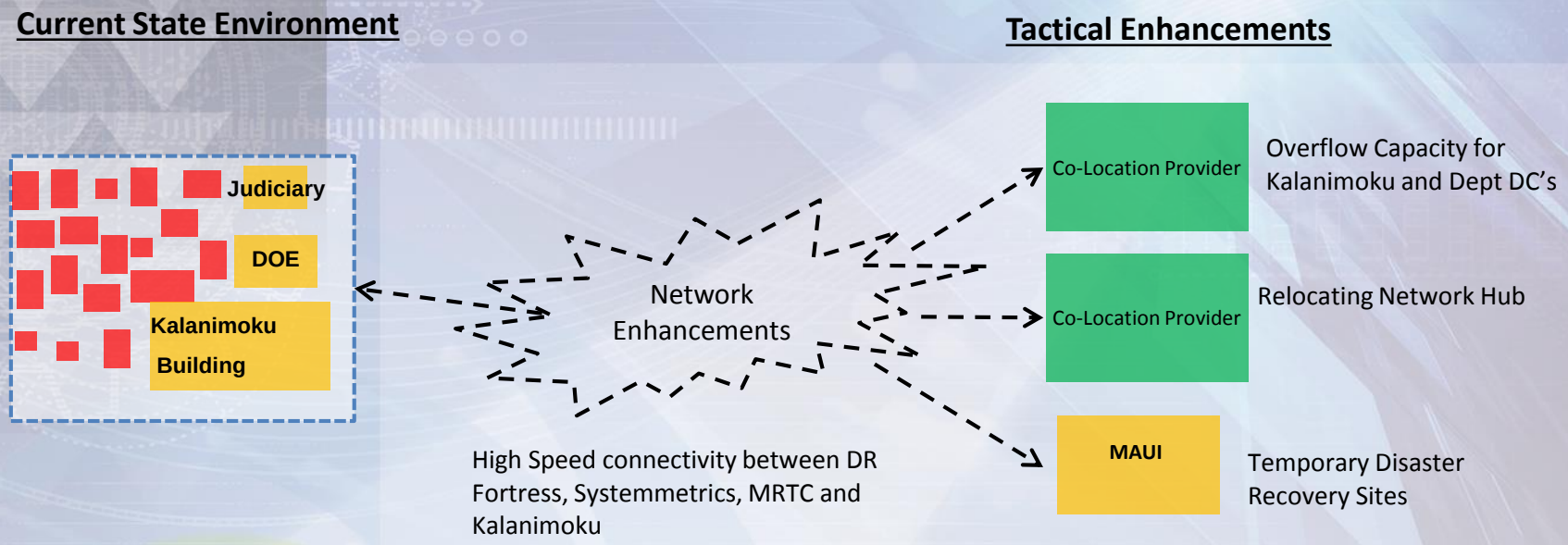
Long- Term Strategy – Build Tier 3 State Data Center

The State will have a primary data center on Oahu that house 70%+ of its data, a disaster recovery facility and partner with neighboring island to house a few additional assets



State of Hawai'i IMT OFFICE OF INFORMATION MANAGEMENT AND TECHNOLOGY

Where do we go in the short term (6-18 months)



The tactical moves provide some capacity and disaster recovery capabilities, affording minor risk mitigation until the permanent strategy can be implemented

- Contracting with the two island co-location facilities to provide overflow capacity in light of future system needs
- Refurbishing Maui Research Technology Center to use for rudimentary disaster recovery – limited space
- Enhance network connectivity with co-location providers and MRTC

How we get there

In Progress

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
	"Build Cloud Infrastructure"	*"Basic Redundancy and Capacity"*	*"Basic DR Functions"*	*"Virtualize Servers"*	*"MF DR and Advanced Cloud*	*"KB Stabilized"*
Major Changes	✓ Build virtualized/GPC infrastructure to prepare for migration of Windows X86 and Linux workloads	✓ Conduct pilot migration to virtualized environment ✓ GPC/Virtual environment fail-over on Maui established ✓ Core network node at Hemmeter moved to Co-Lo ✓ Overflow data center capacity available	✓ Critical KB systems data replicated "data vaults" ✓ Program to virtualize KB and department servers launched ✓ GPC infrastructure constructed	✓ 40-50 existing KB servers virtualized ✓ Some GPC processing shifted to Co-Location Provider	✓ 40-50 existing KB servers virtualized ✓ GPC moved from KB to Co-Location Provider ✓ Self-service provisioning for non-critical workloads ✓ Backup Mainframe established at Co-Location Provider	✓ 40-50 existing KB servers virtualized ✓ Enterprise Unix systems moved to Co-Location Provider ✓ KB Deferred Maint. Addressed ✓ KB limited to Mainframe and Print Center.
Key Benefits		Overflow data center space available for new applications and servers	Virtualization relieves pressure on KB	Ready to begin Dept. DC consolidation	Ready for full scale dept DC consolidations	Ready for new enterprise systems
		Core Network node redundancy	Critical system data in data vault at Co-Location Provider Servers move to reliable private cloud		Backup Mainframe	KB Deferred Maintenance Complete

Increase Capacity

Reduce Risk

State of Hawai'i IMT Office of Information Management and Technology

A Core Component of the Data Center Strategy – the Government Private Cloud Project

Vision

To provide the State of Hawaii with a common platform for Datacenter Consolidation, Shared/Self Service, and Private Cloud that will lower the cost of IT, increase the level of service to departments and reduce complexity

Objectives

1. ***Reduce Costs***
   Reduce hardware and operating costs by increasing current virtualization levels, reducing DC footprints, closing DC's and automating manual tasks
2. ***Reduce Risk***
   Use the private cloud services to reduce outage and disaster risk by deploying an infrastructure where Disaster Recovery are built-in
3. ***Increase Service***
   Remove the complexities of managing IT and transform it into a turn-key utility where on-demand services can be provided to departments

Foundational Elements

- **Technology** (Network, Hardware, Virtualization , Automation)
- **Process** (Incident/Problem, Change, Chargeback, Service Levels)
- **People** (Collaboration, Outreach, Shared Ownership with Departments)

Accomplishments & What's Next

COMPLETED:

- ☑ Formal kickoff of Government Private Cloud Project on January 8th
- ☑ Developed a GPC project plan and began departmental outreach
- ☑ Established lease with DR Fortress for overflow data center capacity
- ☑ Developed draft of Government Private Cloud initial service offerings
- ☑ Stood up Production VM for Public Safety Department's Crime Victim's Compensation Case Management System

PLANNED:

- ☐ Migration from legacy infrastructure – increase reliability, security and capacity
- ☐ Establish network connectivity between Kalanimoku and Co-Location Facilities
- ☐ Conduct GPC information sessions for departments
- ☐ Work with departments to understand high priority needs and plan migration to GPC

Questions?

Email us: oimt.cloud@hawaii.gov